EL-2630L
EL-2656GII

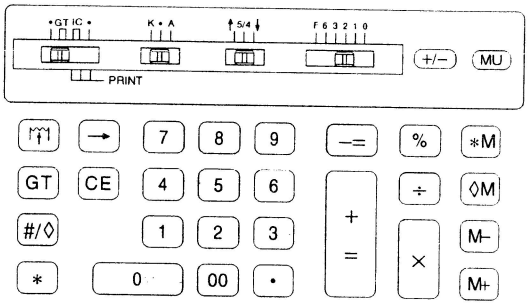
SHARP SERVICE MANUAL

CODE: 00ZEL2656G2/E

EL-2656GII
MODEL EL-2630L

STANDARD FUNCTION	12 digits 1 M	
DISPLAY SECTION	1,234,567,890.12 M •E	
	ELEMENT : Dispay tube	PARTS NAME : 13-LT-19G
	NUMERAL : 12 digits	SYMBOL : 1 digit
	12.0 / 4.8 (mm)	M / •E
LSI	Name : TC83220-0503	
	Type : SDIP	
	Pin : 42Pins	
POWER SUPPLY	AC : ○	DC : ×
• BATTERY TYPE • OPERATION TIME	AC only	

KEY LAYOUT



KEY SYSTEM : NMB system

AC ADAPTOR	
RECHARTGEABLE BATTERY	
POWER CONSUMPTION	120V : 12W/130mA 220-240V : 125mA MULTI : 9.7W
AUTO POWER OFF TIME	
MEMORY PROTECT	
DIMENSIONS (mm)	237 (W) 301 (D) 71 (H)
CALCULATIONS	

Four arithmetic calculation, Constant calculation, Power calculation, Chain calculation, Reciprocal calculation, % calculation, Add-on (discount) calculation.

PRINTER SECTION		
	MODEL NAME	PA-512
	PRINTING SYSTEM	Print wheel selective system
	PRINTING CAPACITY	18 digits
	CHARACTER DIMENSION	1.5 (W) 2.8 (H) mm
	INPUT BUFFER	12 stages
	PRINTING SPEED	Approx. 3.6 lines/sec
	PAPER FEED SPEED	Approx. 3.6 lines/sec
	PAPER RELEASE MECHANISM	Yes
	INK RIBBON	2-color system (Black/Red)
	INK ROLLER	
	INK LIFE	Approx. 30000 lines
	PAPER	Plain paper
	PAPER SIZE (Roll paper)	58 $^{+0}_{-1}$ mm (W), 80 mm in diameter DPAPR1004CSZZ ·····5rolls/pack

Parts marked with "⚠" is important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

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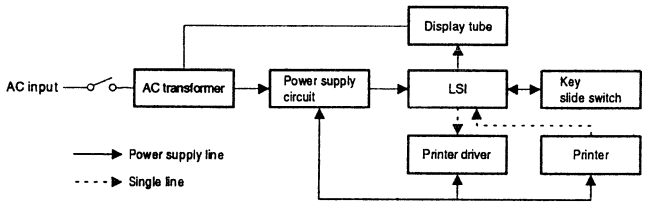
The contents are subject to change without notice.

EL-2630L
EL-2656GII

1. Brock diagram



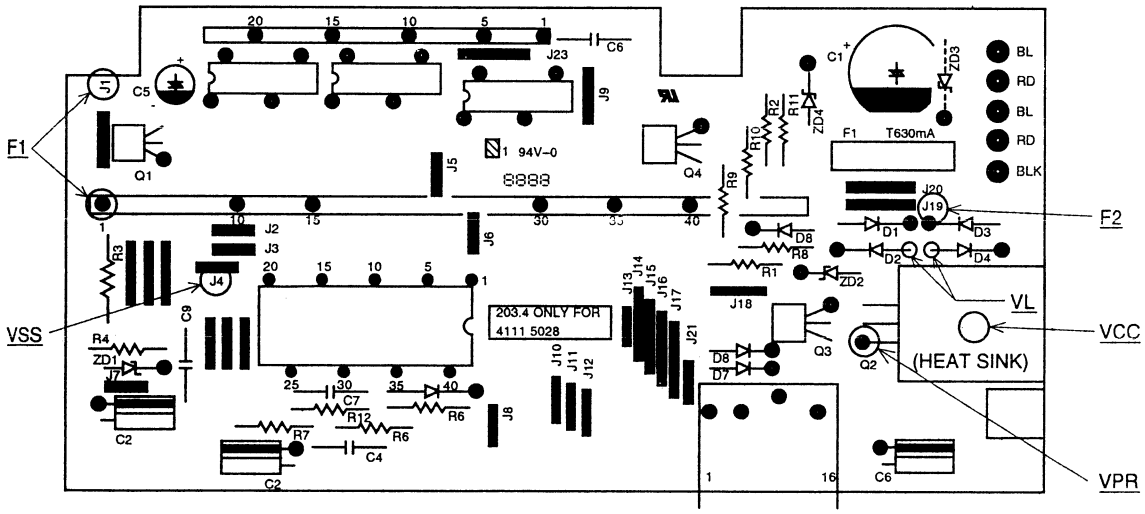
2. Power voltage

Measurement position	Power voltage
F1 – F2	4.2Vac ~ 5.1Vac
VSS – VCC	5.7V ~ 6.6V
(*1)VL – VPR	13.1V ~ 16.2V

Measure with the AC input voltage rating.

(*1) :Measurement of VL-VPR voltage must be performed with the PAPER FEED key being pressed.

- **Measuring pin position**



3. INK RIBBON REPLACEMENT

1. Remove the paper roll from the calculator. (Tear the paper and remove it from the print mechanism by using ⊓.)
2. Set the power switch to OFF.
   Make sure that the print wheel has stopped.
3. Remove the printer cover by sliding it towards the back of the calculator. (Fig. 1)

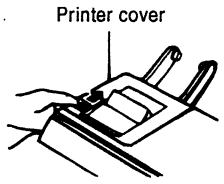


Fig. 1

4. To remove the used ribbon, press the lever towards the center and lift the reels.
5. To install the new ribbon, move the lever to the far left.
6. With the black side of the ribbon facing upwards, place one of the rells on the reel shaft on the right.(Fig. 2) Make sure that the rell is securely in place.

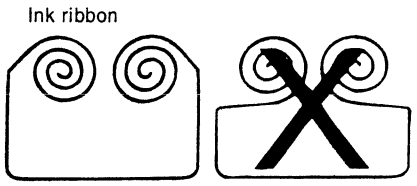


Fig. 2

7. Thread the ribbon around the outside of the metal guides.(Fig. 3)

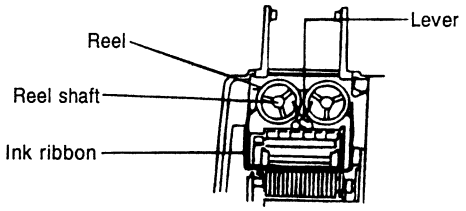


Fig. 3

8. Move the lever to the right and insert the left hand reel securely.
9. Take up any slack by manually turning one of the reels.
10. Replace the cover.
11. Replace the paper roll.

4. PAPER ROLL REPLACEMENT

1. Remove the printer cover.
2. Assemble the paper holder. (Fig. 1)

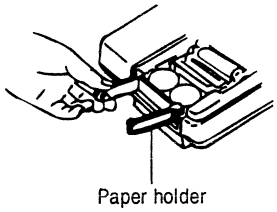


Fig. 1

3. Replace the printer cover.
4. Place the new paper roll in the holder at the back of the calculator.(Fig. 2)

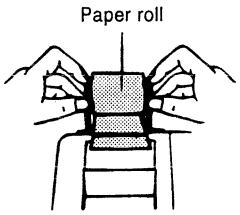


Fig. 2

5. Fold the leading edge of the paper roll 3 to 5 cm.(Never fold it slantwise.)(Fig. 3)

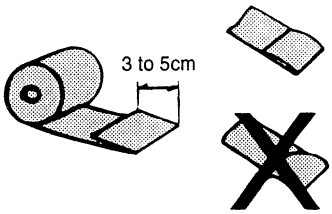


Fig. 3

6. Insert the leading edge of the paper into the opening directly behind the pring mechanism. (Fig. 4)

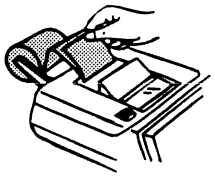


Fig. 4

7. Press [m] .(Fig.5)

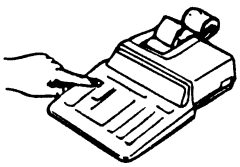
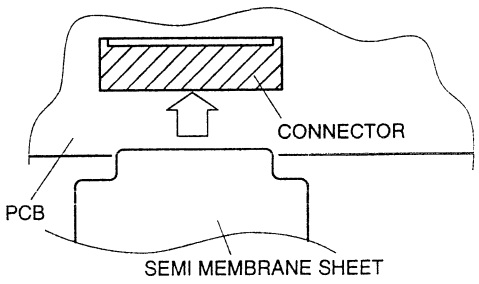
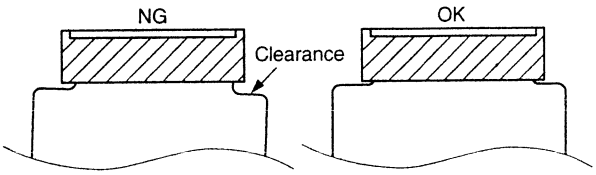


Fig. 5

5. Notes for servicing

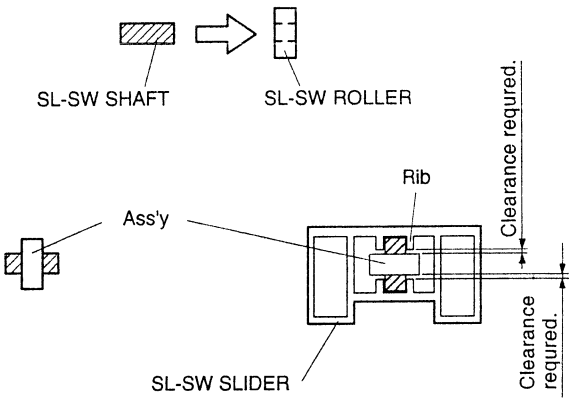
1. Insertion of the semi membrane sheet into the connector





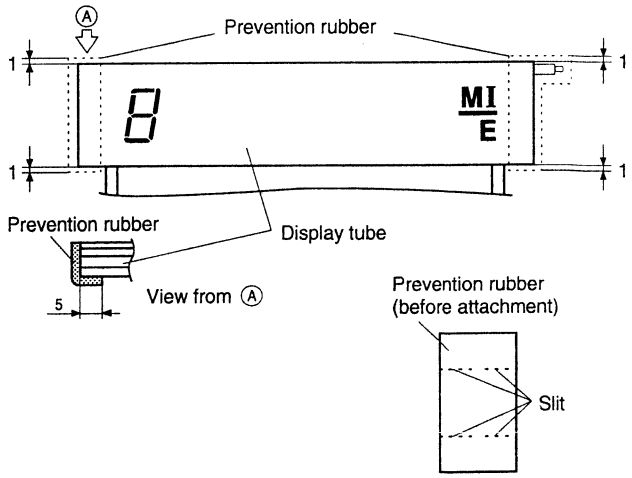
* Insert completely to the bottom to eliminate a clearance.

2. Insertion of the SL-SW roller into the SL-SW shaft



* When the ass'y is inserted into the SL-SW slider, keep a clearance between the rib and the SL-SW roller.

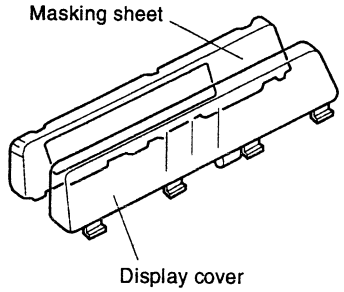
3. Attachment of the display tube to the prevention rubber



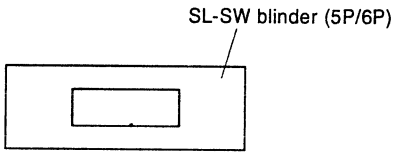
* Left side: As shown in the view from (A), bend the tube and attach it. Right side: Similarly to the left side, bend the tube and attach it.

4. Masking sheet

This part is provided without bending work. Before attaching to the display cover, it must be bent. (It is made of paper and can be bent easily.)



5. SL-SW blinder (5P/6P)

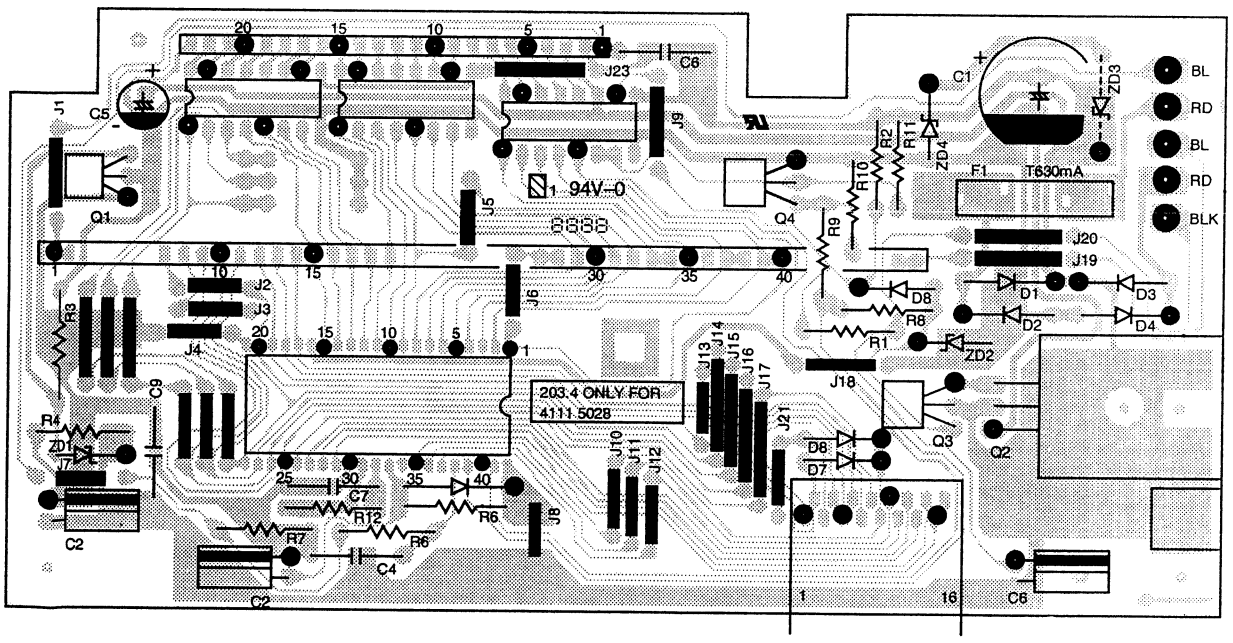


Front side: External side..... Specified color (Same color as the upper case.)

Back side: Internal side ..... Milky white

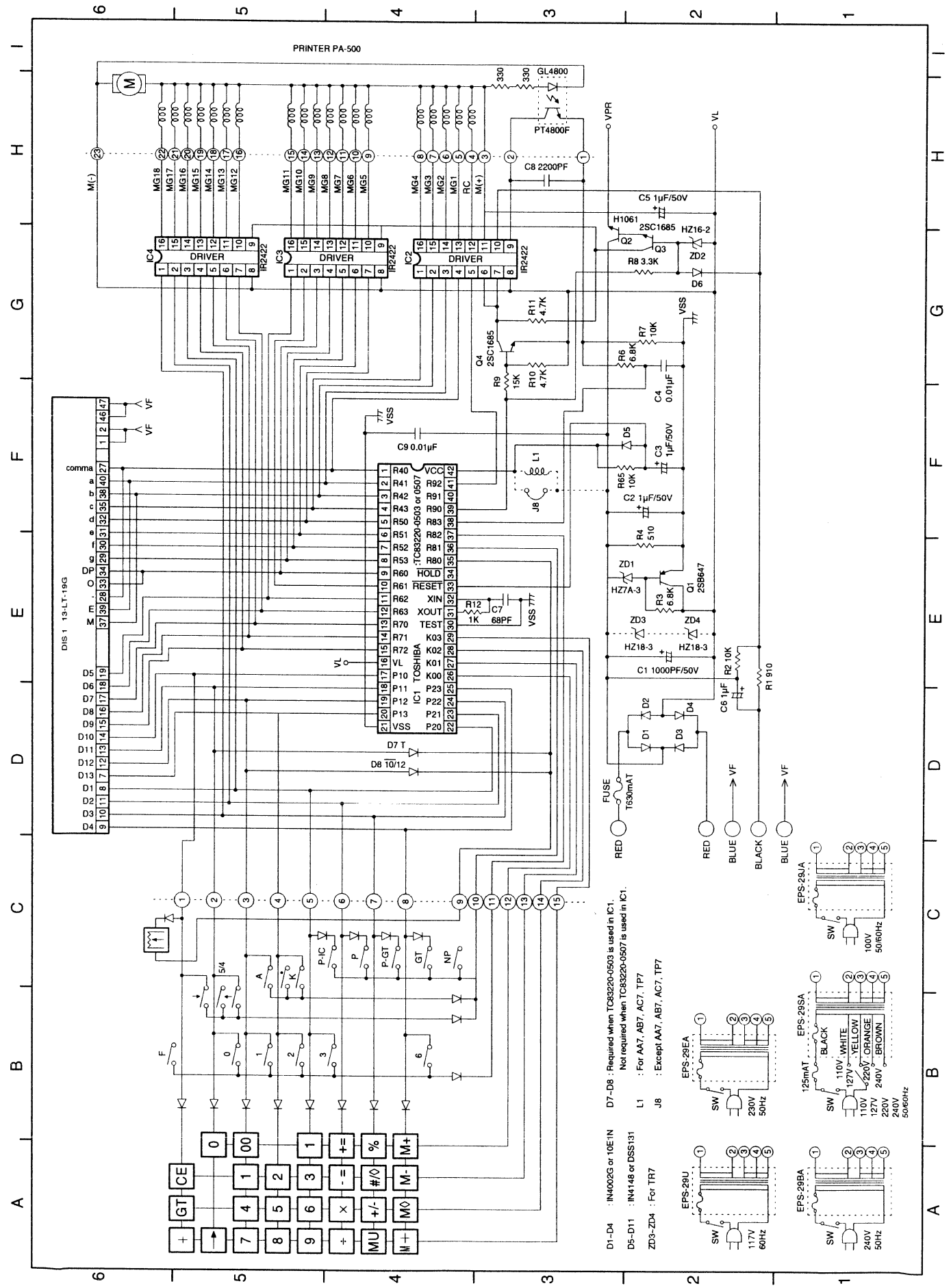
* Specified color
  OA gray

6. Parts layout



NOTE
ZD3-4 : for TR7

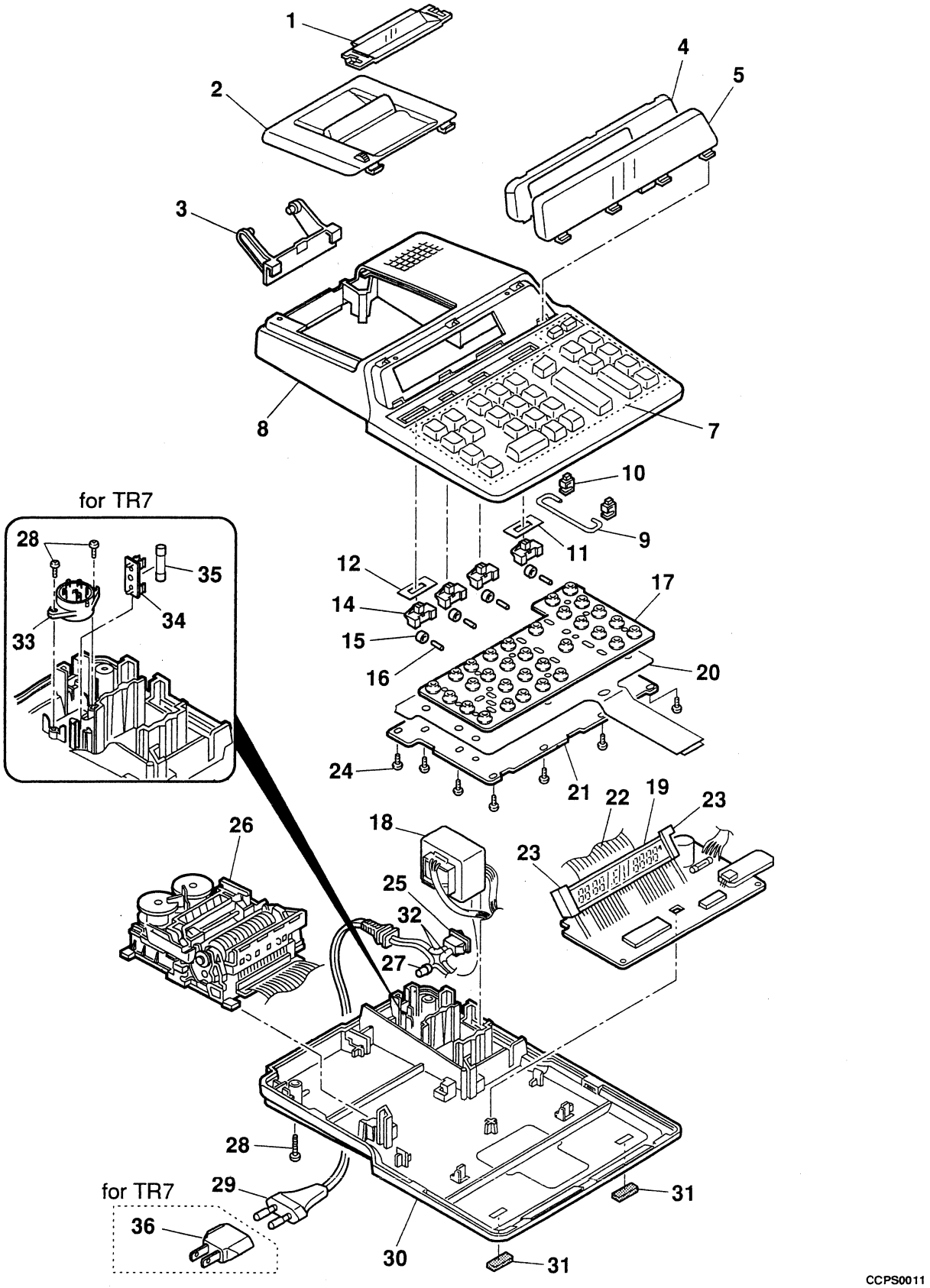
7. CIRCUIT DIAGRAM



EL-2630L
EL-2656GII

PARTS LIST & GUIDE

1 Exteriors



1 Exteriors

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	EL-2656GII	EL-2630L
1	0EN1005-7381//	AH		C	Paper cutter	○	○
2	0EN1005-9592//	AM	N	D	Printer cover	○	
	0EN1005-9558//	AM		D	Printer cover		○
3	0EN1005-7445//	AK	N	C	Paper holder	○	
	0EN1005-7436//	AK		C	Paper holder		○
4	0EN1002-5021//	AK		C	Masking sheet	○	○
5	0EN1005-7443//	AM	N	D	Display cover	○	
	0EN1005-7444//	AM	N	D	Display cover		○
7	0EN1103-8162//	AB	N	C	Key top, *	○	
	0EN1103-8078//	AB		C	Key top, *		○
	0EN1103-8212//	AB		C	Key top, GT	○	○
	0EN1103-8213//	AB		C	Key top, *M	○	○
	0EN1103-8214//	AB		C	Key top, ◇M	○	○
	0EN1103-8215//	AB		C	Key top, M−	○	○
	0EN1103-8216//	AB		C	Key top, M+	○	○
	0EN1103-8088//	AD		C	Key top, −=	○	○
	0EN1103-8163//	AC	N	C	Key top, ½	○	
	0EN1103-8085//	AC		C	Key top, ½		○
	0EN1103-8164//	AC	N	C	Key top, MU	○	
	0EN1103-8086//	AC		C	Key top, MU		○
	0EN1103-8165//	AC	N	C	Key top, +=	○	
	0EN1103-8087//	AC		C	Key top, +=		○
	0EN1103-8059//	AD		C	Key top, 0	○	○
	0EN1103-8060//	AC		C	Key top, 00	○	○
	0EN1103-8061//	AC		C	Key top, ·	○	○
	0EN1103-8062//	AB		C	Key top, 1	○	○
	0EN1103-8063//	AB		C	Key top, 2	○	○
	0EN1103-8064//	AB		C	Key top, 3	○	○
	0EN1103-8065//	AB		C	Key top, 4	○	○
	0EN1103-8066//	AC		C	Key top, 5	○	○
	0EN1103-8067//	AB		C	Key top, 6	○	○
	0EN1103-8068//	AB		C	Key top, 7	○	○
	0EN1103-8069//	AB		C	Key top, 8	○	○
	0EN1103-8070//	AB		C	Key top, 9	○	○
	0EN1103-8155//	AB	N	C	Key top, %	○	
	0EN1103-8071//	AB		C	Key top, %		○
	0EN1103-8156//	AB	N	C	Key top, ÷	○	
	0EN1103-8072//	AB		C	Key top, ÷		○
	0EN1103-8157//	AD	N	C	Key top, ×	○	
	0EN1103-8073//	AB		C	Key top, ×		○
	0EN1103-8158//	AB	N	C	Key top, →	○	
	0EN1103-8074//	AB		C	Key top, →		○
	0EN1103-8159//	AB	N	C	Key top, CE	○	
	0EN1103-8075//	AB		C	Key top, CE		○
	0EN1103-8160//	AB	N	C	Key top, PF	○	
	0EN1103-8076//	AB		C	Key top, PF		○
	0EN1103-8161//	AB	N	C	Key top, #/◇	○	
	0EN1103-8077//	AB		C	Key top, #/◇		○
8	0EN1005-9590//	AZ	N	D	Upper case	○	
	0EN1005-9556//	AZ		D	Upper case		○
9	0EN1001-0024//	AD		C	Key top bar (for "+=")	○	○
10	0EN1103-6606//	AB		C	Key top bar holder (for "+=")	○	○
11	0EN1002-0108//	AD	N	C	SL−SW blinder (6P)	○	
	0EN1002-0106//	AD		C	SL−SW blinder (6P)		○
12	0EN1002-0109//	AD	N	C	SL−SW blinder (5P)	○	
	0EN1002-0107//	AD		C	SL−SW blinder (5P)		○
14	0EN1003-6638//	AC	N	C	SL−SW slider	○	
	0EN1003-6634//	AC		C	SL−SW slider		○
15	0EN1010-0065//	AE		C	SL−SW roller	○	○
16	0EN1001-0025//	AD		C	SL−SW shaft	○	○
17	0EN1010-9007//	AV		C	Rubber contact sheet	○	○
⚠ 18	0EN3121-0042//	AX		B	Transformer (EPS−29U)	○	
⚠	0EN3122-0036//	AX	N	B	Transformer (EPS−29EA) [AC7,TP7]		○
⚠	0EN3122-0037//	AX	N	B	Transformer (EPS−29BA) [AA7,AB7]		○
⚠	0EN3124-0013//	AY	N	B	Transformer (EPS−29SA) [TR7]		○
19	0EN3111-0037//	BG		B	Display tube (13−LT−19G)	○	○
20	0EN3050-9015//	AW		C	Membrane sheet (with Diode)	○	○
21	0EN1002-7016//	AM		C	Back plate	○	○
22	0EN3193-0066//	AE		C	Jumper lead wire	○	○
23	0EN1010-0070//	AB		C	Prevention rubber	○	○
24	XUPSD26P06000	AA		C	Screw (2.6×6)	○	○
25	0EN3171-0021//	AK		B	Power switch (23 series)	○	○
26	0EN2912-0003//	BP		E	Printer (PA512)	○	○
27	QTANP1094CCZZ	AA		C	Appollo terminal [except TR7]	○	○
28	XUPSD30P12000	AA		C	Screw (3×12)	○	○
⚠ 29	0EN3143-0110//	AN		B	Power cord	○	
⚠	0EN3143-0113//	BA	N	B	Power cord [AA7]		○
⚠	0EN3143-0112//	AT	N	B	Power cord [AB7]		○
⚠	0EN3143-0111//	AP	N	B	Power cord [AC7,TR7]		○
⚠	0EN3143-0108//	BA	N	B	Power cord [TP7]		○

1 Exteriors

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	EL-2656GII	EL-2630L
30	0EN1005-9591//	AY	N	D	Lower case	○	
	0EN1005-9618//	AY	N	D	Lower case [AA7,AB7]		○
	0EN1005-9619//	AY	N	D	Lower case [AC7]		○
	0EN1005-9557//	AY	N	D	Lower case [TR7]		○
	0EN1005-9620//	AY	N	D	Lower case [TP7]		○
31	0EN1010-0068//	AB		C	Rubber foot	○	○
32	PTUBU1004CCZZ	AA		C	Protection tube (φ4)	○	○
33	QSW-R1357CCZZ	AG		B	Multi switch (J−R1025) [TR7]		○
34	0EN3132-0003//	AH	N	C	Fuse holder [TR7]		○
⚠ 35	0EN3131-0016//	AF	N	A	Fuse (T125mA) [TR7]		○
36	QPLGA1023CCZZ	AG		C	Plug adapter [TR7]		○
101	0EN1013-0482//	AA	N	D	Fuse label [TR7]		○

2 Packing material & Accessories

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	EL-2656GII	EL-2630L
1	0EN1050-7372A//	AQ	N	D	Packing case	○	
	0EN1050-7373A//	AQ	N	D	Packing case		○
2	SSAKA3441QCZZ	AB		D	Vinyl bag (320mm×470mm) (Set)	○	○
3	SSAKA5004CCZZ	AA		D	Vinyl bag (100×300mm) (AC cord)	○	○
4	SSAKA0019SCZZ	AA		D	Vinyl bag (120×180mm) (Paper holder)	○	○
5	0EN1050-9085//	AL		C	Styrenefoam-L(Snow box)	○	○
6	0EN1050-9086//	AL		C	Styrenefoam-R(Snow box)	○	○
7	0EN1050-0445B//	AF		D	Instruction book (E,F,S) (3 language)	○	
	0EN1050-0449A//	AF	N	D	Instruction book (7 language)		○
8	0EN1050-0455A//	AC		D	Ink ribbon caution card	○	○
9	0EN1050-0450A//	AB		D	Warranty card	○	
10	0EN1013-0987A//	AB	N	D	Important label−A (I/B) [AA7]		○
11	0EN1013-0988A//	AB	N	D	Important label−B (AC cord) [AA7]		○
12	TCAUA1210CCZZ	AB		D	V/S caution TAG B (AC cord) [TR7]		○
13	TCAUA1213CCZZ	AA		D	V/S caution label B (Set) [TR7]		○

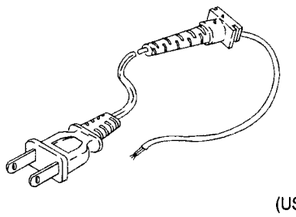
3 PWB unit

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	EL-2656GII	EL-2630L
1	0EN3031-0035//	BB		B	LSI (TC83220−0503) [IC1]	○	○
2	0EN3041001O//	AK		B	Drive IC (IR2422) [IC2~4]	○	○
3	0EN3062-0103//	AC		B	Transistor (2SB647C) [Q1]	○	○
4	0EN3063050 3//	AG		B	Transistor (H1061) [Q2]	○	○
5	0EN3063010 4//	AC		B	Transistor (2SC1685) [Q3~4]	○	○
6	VHD10E1N///−1	AB		B	Diode (10E1N) [D1~4]	○	○
7	VHDDSS131//−1	AA		B	Diode (DSS131) [D5~8]	○	○
8	VHEHZ16−2//−1	AB		B	Zener diode (HZ16−2) [ZD2]	○	○
9	VHEHZ7A3///−1	AB		B	Zener diode (HZ7A3) [ZD1]	○	○
10	0EN3074-0172//	AB	N	B	Zener diode (HZ18−3) [ZD3~4] (TR7)		○
11	0EN3094-7567//	AL		C	ELE. capacitor (50V/1000μ) [C1]	○	○
12	VCEAGU1HW105M	AA		C	Capacitor (50WV 1.0μF) [C2~3,5~6]	○	○
13	0EN3097753 7//	AB		C	Ceramic capacitor (0.01μF ±30% 50V)(AXIBL) [C4,9]	○	○
14	0EN3097732 9//	AA		C	Ceramic capacitor (2200pF ±20% 50V) [C8]	○	○
15	0EN3097-7343//	AB		C	Ceramic capacitor (50V/68p) [C7]	○	○
16	VRD-HT2EY511J	AA		C	Resistor (1/4W 510Ω ±5%) [R4]	○	○
17	VRD-HT2EY911J	AA		C	Resistor (1/4W 910Ω ±5%) [R1]	○	○
18	VRD-HT2EY102J	AA		C	Resistor (1/4W 1KΩ ±5%) [R12]	○	○
19	VRD-HT2EY332J	AA		C	Resistor (1/4W 3.2KΩ ±5%) [R8]	○	○
20	VRD-HT2EY472J	AA		C	Resistor (1/4W 4.7KΩ ±5%) [R10,11]	○	○
21	VRD-HT2EY682J	AA		C	Resistor (1/4W 6.8KΩ ±5%) [R3,6]	○	○
22	VRD-HT2EY103J	AA		C	Resistor (1/4W 10KΩ ±5%) [R2,5,7]	○	○
23	VRD-HT2EY153J	AA		C	Resistor (1/4W 15KΩ ±5%) [R9]	○	○
24	0EN3111-0037//	BG		B	Display tube (13−LT−19G) [DIS1]	○	○
25	0EN3192-0092//	AG		C	Connection (16pin)	○	○
26	0EN3211-0005//	AC		C	Heat sink	○	○
27	XBPSD30P08000	AA		C	Screw (3×8)	○	○
28	XNESD30-24000	AA		C	Nut (3NS)	○	○
29	0EN3193-0066//	AE		C	Jumper lead wire	○	○
30	0EN8210-0059//	AB		C	Ground spring	○	○
⚠ 31	0EN3131-0025//	AF		A	Fuse (T630mA) [F1]	○	○
32	0EN3132-0007//	AC		C	Fuse holder	○	○
33	0EN2912-0003//	BR		E	Printer (PA512)	○	○

Plug shape

0EN3143-0110//

1



(USA)

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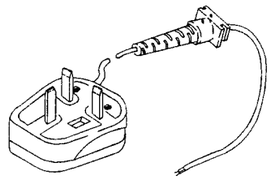

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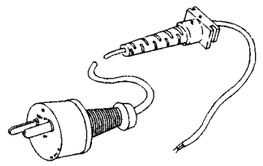

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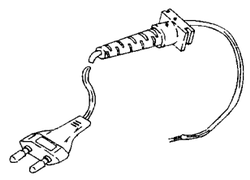
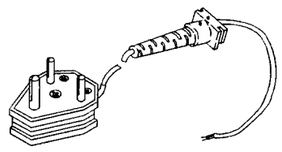


(AC7)

0EN3143-0108//

5



(TP7)

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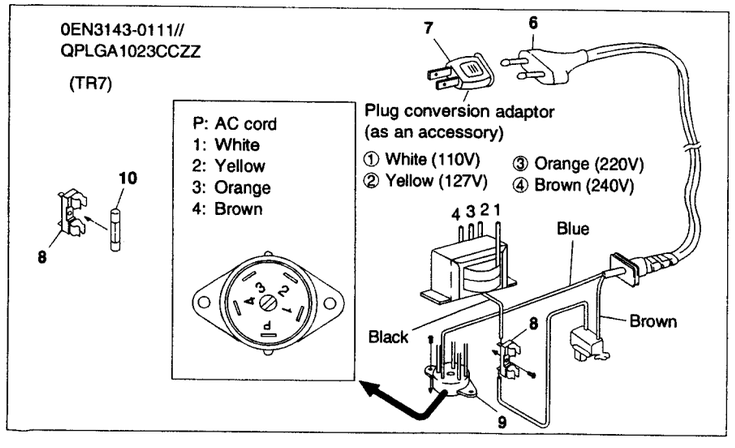
QPLGA1023CCZZ

(TR7)



List of destinations (Destinations are determined by the name plate voltage and the plug shape.)

Destination	To identify destination		Major shipping country	Remarks
	Name plate voltage (V)	Plug shape No.		
U.S.A.	120	1	U.S.A.	
AB7	230-240	3	Australia, New Zealand	
AA7	230-240	2	U.K.	
AC7	220-230	4	Germany	
TP7	220	5	South Africa	
TR7	Multi (110/127/220/240)	4 and 6	Other countries	

AC cord

NO.	PARTS CODE	PRICE RANK	Type of Lead		DESCRIPTION	MODEL NAME	
			2 LEAD	3 LEAD		EL-2656GII	EL-2630L
1	0EN3143-0110/ /	AN	○		AC cord USA	○	
2	0EN3143-0113/ /	BA	○		AC cord AA7		○
3	0EN3143-0112/ /	AT	○		AC cord AB7		○
4	0EN3143-0111/ /	AP	○		AC cord AC7		○
5	0EN3143-0108/ /	BA	○		AC cord TP7		○
6	0EN3143-0111/ /	AP	○		AC cord TR7		○
7	QPLGA1023CCZZ	AG	—	—	Plug TR7		○
8	0EN3132-0003/ /	AH	—	—	Fuse holder TR7		○
9	QSW-R1357CCZZ	AG	—	—	Rotary switch TR7		○
10	0EN3131-0016/ /	AF	—	—	Fuse (T125mA) TR7		○

SHARP

ELECTRONIC CALCULATOR: EL-2630GII etc.

Date: Aug. 21, 1995

No. : C-1004

Technical Report

1. CHANGE OF THE LSI
2. CHANGE OF THE PARTS FOR COMMON USE OF THE TRANSFORMER

1-1. Model name: EL-2630GII, VX-1652B/2652B, EL-2615G, CS-1194/2194, EL-2630L/2656GII

1-2. General: The LSI for the above electronic calculators has been changed.
At the same time, the PWB, key sheet and connector have been changed as shown below.
The grounding terminal of the keyboard pressing plate has been disused since the plate spring type of it has been changed to the key sheet type.

1-3. Parts change:

Ref No.	Model name	Version	P/G No.	Current parts	New parts		Parts name	Effective time	Interchangeability	Note
				Parts code	Parts code	Price rank				
1	EL-2630GII EL-2630L EL-2656GII	All	3 - 1	0EN3031-0035//	0EN3031-0039//	BB	LSI	Jan. '95	4	—
			1 - 20	0EN3050-9015//	0EN3050-9033//	AW	Key sheet			
			3 - 24	0EN3192-0092//	0EN3192-0096//	AG	Connector			
			3 - 29	0EN8210-0059//	—	—	Plate spring			
	VX-2652B CS-1194 VX-1652B CS-2194	All (VX U.S.A. only)	3 - 1	0EN3031-0038//	0EN3031-0039//	BB	LSI			
			1 - 13	0EN3050-9024//	0EN3050-9032//	FG	Key sheet			
			3 - 25	0EN3192-0092//	0EN3192-0096//	AG	Plate spring			
	EL-2615G	All	3 - 1	0EN3031-0035//	0EN3031-0039//	BB	LSI			
			1 - 18	0EN3050-9021//	0EN3050-9035//	AW	Key sheet			
			3 - 24	0EN3192-0092//	0EN3192-0087//	AG	Plate spring			
	VX-2652B VX-1652B	U.S.A.	3 - 1	0EN3031-0038//	0EN3031-0039//	BB	LSI			
			1 - 13	0EN3050-9024//	0EN3050-9032//	FG	Key sheet			
			3 - 25	0EN3192-0092//	0EN3192-0096//	AG	Plate spring			

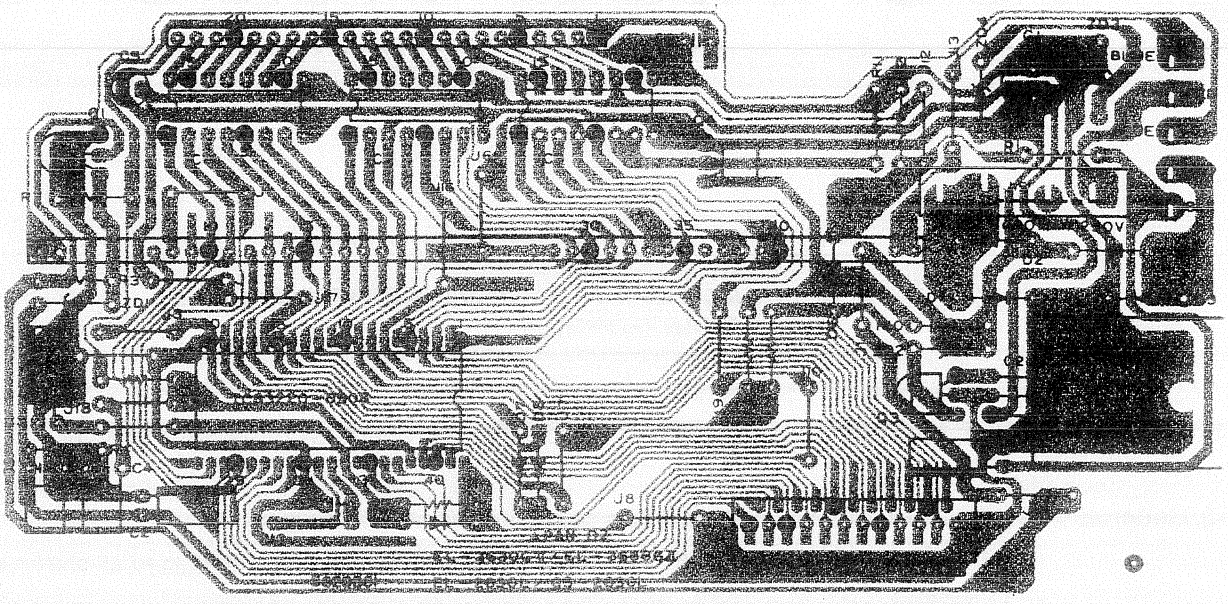
<Interchange>

1. Interchangeable.	4. Not interchangeable.
2. Current type can be used in place of new type. New type cannot be used in place of current type.	5. Interchangeable if replaced with same types of related parts in use.
3. Current type cannot be used in place of new type. New type can be used in place of current type.	6. Others.

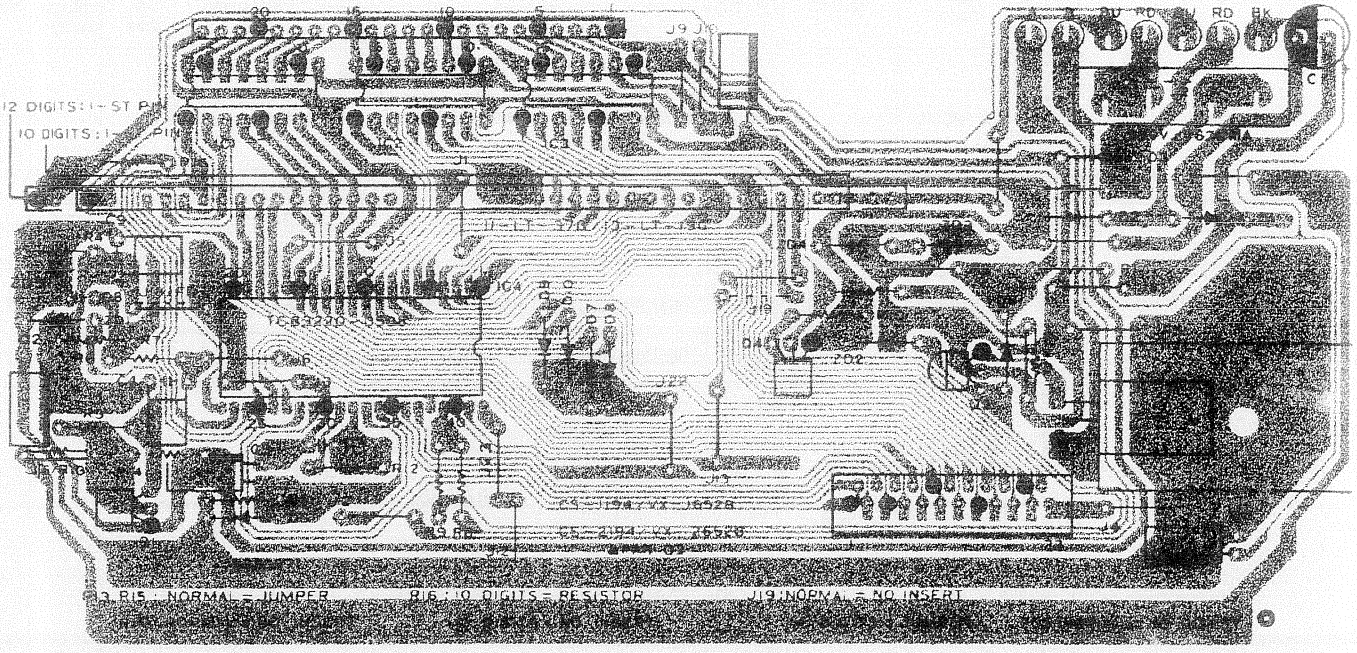
Parts marked with "⚠" is important for maintaining the safety of the set.
Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

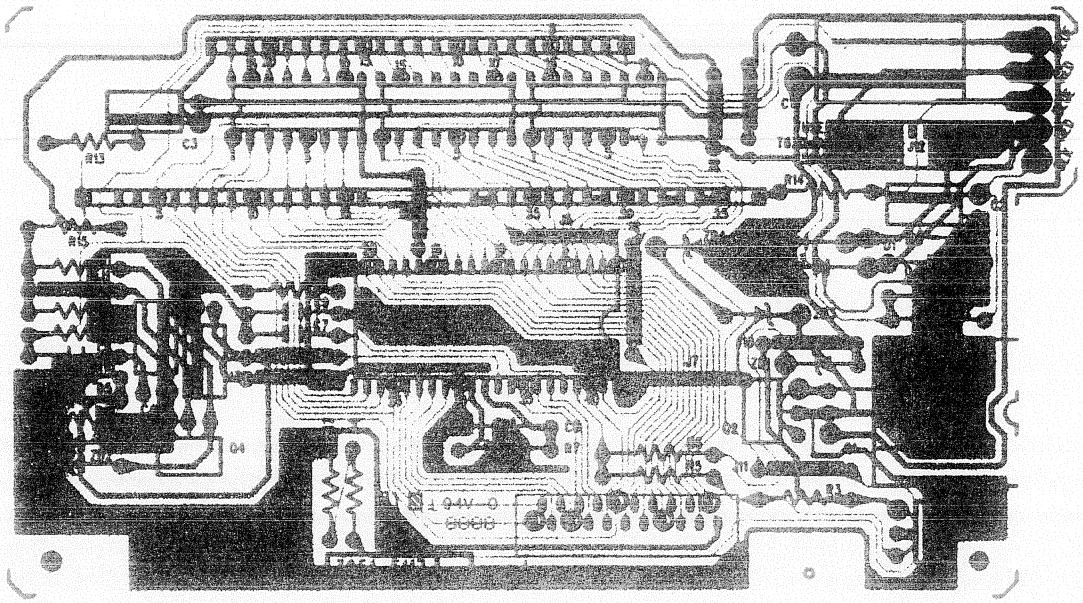
* NEW PATTERN AND PARTS LAYOUT DRAWINGS

EL-2630GII/2656GII/2630L



VX-1652B/2652B, CS-1194/2194





2-1. Model name:

EL-2615G

2-2. General:

The transformer of EL-2615G for U.S. and Canada has been made common for both destinations.

Accordingly the fuse and resistor have also been changed.

2-3. Parts change:

Ref No.	Model name	Version	P/G No.	Current parts	New parts		Parts name	Effective time	Interchangeability	Note
				Parts code	Parts code	Price rank				
2	EL-2615G	U.S.A. Canada	1 - 23	0EN3121-0035//	0EN3121-0044//	AY	Transformer	Jan. '95	5	—
				0EN3121-0036//	0EN3121-0044//	AY				
			3 - 30	0EN3131-0023//	0EN3131-0025//	AF	Fuse			
			3 - 17	VRD-HT2EY122J	VRD-HT2EY152J	AA	Resistor (R2)			
			3 - 16	VRD-HT2EY681J	VRD-HT2EY511J	AA	Resistor (R12)			
			—	Jumper wire	VRD-HT2EY5R6J	AA	Resistor (R13, 14)			
			3 - 38	VRD-HT2EY222J	—	—	Resistor (R18, 19)			